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COOPERATIVE EXTENSION WORK IN AGRICULTURE  
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HOME CANNING OF MEATS AND SEA FOODS  
WITH THE STEAM-PRESSURE CANNER

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Club girls canning fish fresh from the water

Contribution from the States Relations Service  
Office of Extension Work, South





# HOME CANNING OF MEATS AND SEA FOODS WITH THE STEAM-PRESSURE CANNER.<sup>1</sup>

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## WHY CAN MEATS?

THE HOME CANNING of fruits and vegetables has become very common, and it is natural that the next step should be the home canning of meats, fish, and the like. The purpose of this circular is to give some simple instructions for the canning of such products.



FIG. 1.—Cutting up pork.

It is very difficult to keep fresh meat on the farm without a refrigerator or ice supply. As such conveniences are often lacking in the farm

<sup>1</sup> This circular is primarily intended for the county home-demonstration agent and her more advanced pupils after she has given verbal instructions and demonstrated meat canning to them.



home, the importance of canning becomes evident, especially as the curing of meat is also difficult in certain regions, as for example in the extreme South. The farmer who has no ice frequently loses meat when the weather suddenly turns warm at butchering time. Often, too, he uses more fresh meat than he needs in order to consume it before it spoils. This means a waste of one of the most important articles of the diet and one which is usually relatively expensive. It is possible not only to avoid such waste by canning, but also to utilize meat scraps, soup bones, and in fact, every part of the animal useful for food purposes.

With a supply of canned meats the housewife can prepare and serve a palatable meal on short notice with saving of both fuel and time. It also makes possible a more varied diet, lessening the dependence upon cured, salted, and smoked meat, the constant and exclusive use of which means a monotonous and less wholesome diet.

#### WHY DO FOODS SPOIL AND HOW DOES CANNING PREVENT IT?

*Canning* is the art of preserving food by means of sterilization by heat and keeping it sterile in an air-tight, sealed container as nearly as possible in the natural condition or in the condition in which it is ordinarily used for food.

Certain microorganisms almost always present in air, soil, water, on products used for food, and even on and in our own bodies, are responsible for the spoiling of food. Spoilage is due mainly to the action of bacteria, but molds and yeasts as well as enzymes also assist in the decomposition of food products.

*Bacteria* are the most troublesome foes to combat in canning. They are present almost everywhere and are divided into several classes. Some of them will grow where air is present, others can grow without any air, and some are able to grow either with or without the presence of air. They require warmth, moisture, and food, but only certain varieties can thrive in acids, hence it is easier to can acid fruits, like tomatoes. Sugar in large quantities also prevents or retards their development, hence it is easy to keep fruit preserves or jellies. Many of the bacteria are spore-producing and some varieties that ordinarily do not produce spores will under adverse conditions become spore-producing. The spores may be compared to the seed of higher plants. They are able to withstand not only high temperature but also freezing and excessive drying without losing their power of development into the vegetative form (fully developed bacteria). Most bacteria in the vegetative form are killed by a temperature below the boiling point, although the spores of certain kinds destructive to food products are able to withstand a much higher temperature.

## IS THERE DANGER OF FOOD POISONING BY PROPERLY CANNED MEAT?

Poisonous compounds are often formed during the process of decomposition of foods rich in protein by the action of certain bacteria. This is especially likely to occur in case of meats and particularly sea foods (fish, shrimp, lobsters, crabs, clams, oysters, etc.), which spoil quickly. *It is of the utmost importance, therefore, to use for canning only such meats and fish as are known to be absolutely fresh and clean.* (See cover illustration and Fig. 1.)

When meat is canned before spoiling, or decomposition, has commenced, treated in an absolutely cleanly manner, packed in air-tight containers, sealed properly, and sterilized in a steam-pressure canner for the time and temperature given in these instructions microorganisms are killed and meat is prevented from spoiling, the resulting product being one which experience has shown to be a wholesome foodstuff.

Occasionally people are found who think that the high temperature used in the canning of meat will make all kinds of meat "safe" and even make "wholesome" meat out of products in which putrefaction has begun. This is absolutely false. While certain disease-producing bacteria would be killed by the canning process, still meat should never be canned unless it is fresh and from animals absolutely healthy and in prime condition.

The condition of canned meat when the can is opened should be carefully noted. There should be no bad odors. However, in case of canned smoked products a faint odor of the volatile matter derived from the process of smoking may be detected as soon as the can is opened, but will disappear in a few minutes. If a piece of red litmus paper held close over the opened can, standing in hot water, turns blue, the contents should be rejected. At the same time a slight alkaline reaction of the actual contents, shown by red litmus paper turning blue, is not evidence of decomposition, as, for example, normal canned lobsters are often alkaline. An alkaline reaction, however, should be regarded with suspicion.

Many people are afraid to use tin cans for the home canning of foods, believing that poisonous compounds form more easily in such containers than in glass. This, however, is without foundation, as there is no more danger from the proper use of tin containers than from using vessels coated with tin for ordinary cooking in the home.

Objections are sometimes raised to meat canning on the ground that the high temperature needed for sterilization will break up the constituents of meat, especially the protein. It has been demonstrated that protein bodies subjected to a high temperature break up into dif-



ferent compounds. Roasting or baking may cause changes of the same sort and there seems no reason to suppose that the protein of canned meat is so affected by heat that there is appreciable food loss.

### DO NOT USE PRESERVATIVES.

The fact should be emphasized that in canning according to the instructions in this circular there is no need of preservatives of any kind. Salt may be added for flavoring or the meat may be smoked to flavor it, but neither is necessary for preservation. The use of "commercial preservatives" of any kind in canning is not only unnecessary but may be dangerous, as the most commonly known preservatives and "canning powders" often found on a sale contain one or more of the chemicals known as borax, boric acid, and salicylic acid. Harmful results are especially likely to follow the use of food containing preservatives in case of the very young, the aged and feeble, and others of weak digestion.

### THE STEAM-PRESSURE CANNER AND HOW IT IS USED.

The instructions given in this circular require the use of steam-pressure canners. Such canners should be purchased from a reliable company. They should be able to develop at least 15 to 20 pounds of steam pressure and should be tested for a considerably higher pressure to insure the safety of the operator. In general, the home steam-pressure canner consists of a retort or receptacle with a lid or cover that can be securely fastened to the retort and which when thus fastened makes a steam-tight joint. It must be fitted with a steam gauge recording the steam pressure per square inch, expressed in pounds. In some cases it is also furnished with a thermometer giving the temperature of the steam in the retort. There must be a safety valve which, in some makes of steam-pressure canners, allows steam to escape whenever the pressure reaches a certain number of pounds per square inch, while in other makes it is adjustable to different pressures by moving a weight placed on a lever controlling the opening of the safety valve. There should be also a petcock through which air and dead steam can be let out while canning, or through which the steam can be let out before opening the canner. Before attempting to open the canner it is very important to let out all steam through the petcock until the steam gauge shows there is no more pressure inside of the retort. Failure to do so may cause serious accident. The hot steam may escape and scald the person attempting to unfasten or remove the cover.

Steam-pressure canners for home use are generally made of steel boiler plate riveted together and supplied with cast-iron covers, that can be securely fastened to the retort, or they may be made of cast



aluminum. They can be had from reliable makers at prices ranging upward from \$15, according to capacity and material used in construction. Steel canners can be had either with or without a suitable heating device. They can be used over a wood, coal, or gas stove or over a brick furnace, just as they can be used over several types of gasoline (under pressure) burners. The aluminum pressure canners, common in many homes where they are not only used for canning under steam pressure but for every-day cooking, may be heated successfully on common wood, coal, gasoline or kerosene stoves as well as where more intense heat is used. Care should be exercised not to exceed the pressure specified in the directions furnished with the canners, otherwise a serious explosion may occur.

#### PREPARATION OF MEAT FOR CANNING.

Meats are ready for preparation for the canner as soon as the animal heat has disappeared. (Fig. 1.) They must be handled in as cleanly a manner as possible. For home canning meats should be cooked first—fried, broiled, roasted, baked, or stewed—just as would be done for immediate serving, to preserve not only the meat but the home cooked flavor as well. The meat is seasoned according to individual taste and is heated until it is entirely cooked through, without needing to be cooked tender, before placing it in the cans. (Figs. 2 and 3.) It is very important to try to utilize all parts of the butchered animal so that nothing is wasted. The procedure in canning a calf or young steer, for example, might be about as follows:

Select the meat intended for roasting, slice the meat wanted for steak, and what is not suited to either of these can be used for goulash or stews or be chopped up and made into sausage meat, formed into little cakes, fried, and canned. What meat is left clinging to the raw bones will be utilized when the bones are boiled for soup stock. For this purpose it is well to cut the bones at several places. The bones removed from the roasts and steaks, with any adhering meat, can also be utilized for soup stock. Put the bones in cold water, heat to near the boiling point, simmer, and continue cooking until all of the strength has been extracted. The sinews, the head, and the feet, after they are cleaned, may be added for the soup stock. Do not add any salt. When well cooked remove the bones and meat and strain the soup. It may be poured into the cans as it is or it may be clarified. To clarify the soup mix beaten whites of eggs with an equal portion of water and the crushed egg shells which have first been washed and add this mixture to the soup, bring slowly to a boil, and cook for five minutes. Strain, salt to taste, and pour into hot cans. (The soup stock should jelly when cold. If it does not, simmer until sufficient water has evapo-





FIG. 2.—Hams prepared for roasting (with skin on and skinned).

rated, so that it will jelly when a little is poured into a saucer and cooled.) If the soup stock is too greasy, let it cool, remove the grease or skim it off while warm, clarify the grease, and save it for home cooking. Any meat left on the bones is now carefully picked off, cooled, run through a meat chopper, mixed with salt, pepper, spices to taste, a little soup stock added, and canned as potted meat.

The liver is soaked in water, the coarse veins cut out and the liver skinned and prepared as desired before canning it, or it may be made into liver sausage, boiled, and canned. The heart can be used for goulash. The kidneys should be soaked in salt water, split open and the little sack removed; then they can be used either for stew or for fried kidneys and canned. The sweetbread is boiled and canned or may be prepared in various ways and then canned. The brain is soaked in water to remove the blood, and the membrane enclosing it is removed. It can be fried or prepared in other ways and then canned. The ox tail is used for soup. The tongue is soaked in water, washed clean, salted, boiled, skinned, and packed in cans, with meat jelly or

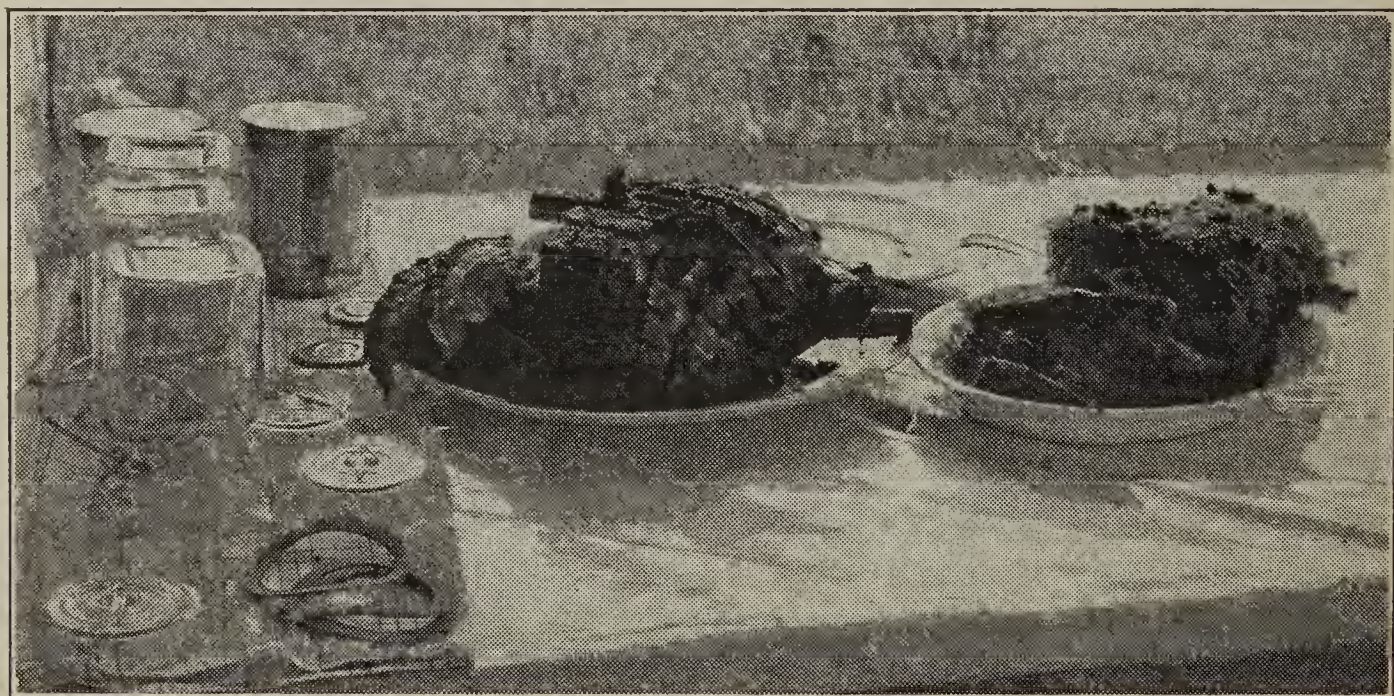


FIG. 3.—Hams roasted, ready for slicing and canning.



soup stock added. If the head is not utilized for soup stock and is of a young animal, it can be boiled, after it is split, cross sectioned and soaked in cold water and cleaned carefully, the eyes taken out, and the mucous membrane of the nostrils removed. Boil, remove the meat and utilize it for mock turtle stew or ragout. The tripe can be prepared in the usual way, then boiled and canned. When all the value of the bones for soup stock has been extracted by boiling, the bones may be dried, run through a bone crusher, and fed to the chickens or used for fertilizer. Thus, nothing of the dressed animal is wasted.

### CANNING IN TIN CANS.

For canning meat tin cans are in many respects superior to glass, as they eliminate the danger of breakage, preserve the meat just as well as glass, and by excluding the light prevent any chemical action from this cause. Of course, by proper wrapping of glass jars their contents can also be protected from the light. Another objection to the use of glass jars is that the rubber rings often are of inferior quality, and even good rubber rings are liable to deteriorate in a warm, moist climate if stored for any length of time.

For canning in tin it will be necessary, besides the steam-pressure canner, to have the following supplies: A quantity of tin cans No. 1 flat, No. 2 and No. 3 with  $2\frac{1}{16}$ -inch openings, supplied with solder-hemmed caps, soldering outfits containing capping steel, tipping copper, solder, and flux, and some suitable apparatus for heating these irons. Where the sanitary cans are used it is necessary to have a mechanical sealer by which the whole top is put on in one operation.

*To make flux* put some commercial muriatic acid in a glass or crockery vessel (a metal container will not do), add strips of sheet zinc (old zinc from jar tops from which the glass lining has been removed will do) until no more can be dissolved. Add to this an equal quantity of water, strain through a piece of muslin. This is called flux and should be used with care. When canning, have some flux in a saucer or some other container to clean the soldering tools in. Keep separately in a glass bottle, properly labeled, the quantity which will be needed for sealing the cans.

*Capping steel and copper.*—Capping steel and copper should be kept coated with solder in order to make the solder flow evenly when sealing. It may be necessary to clean them with coarse sandpaper or even with a file, but care must be taken that the edges are kept true. For coating the steel and copper with solder, prepare a handful of powdered sal ammoniac mixed with a few pieces of solder and put in a can. Heat the already smoothed capping steel or tipping copper until almost red hot, dip into the flux and then into the sal ammoniac and solder,



turning it about and rubbing until bright and well coated with solder; then dip in the flux again.

*Filling the cans.*—Tin cans must be washed clean in warm water, rinsed, and then with the caps, immersed from 10 to 15 minutes in boiling water in order to remove all kinds of dirt or chemicals that might be clinging to the tin, remove from the water, and drain (never use rusty cans). Cut the meat in sizes according to can openings and pack in the cans (fig. 4), filling them within one-half inch of the top, then pour in boiling hot gravy to fill all spaces between the slices of meat (fig. 5). Do not fill cans entirely full, but leave from one-fourth to one-half inch of space at the top of the can. If there is not enough gravy, boiling water or soup stock may be added. Wipe the can top absolutely clean, and especially the groove around the opening must be entirely free from grease. It is best to use a small piece of cloth dipped in boiling water for removing the grease. Wipe dry with a clean cloth. Wipe the caps and place them on the cans. Apply flux carefully around the edge of cap in the groove with a small brush or a little mop made by tying a small piece of cloth around a small stick. The flux is used to make the solder adhere to the tin. Apply the clean, hot capping steel, holding the cap in place with the center rod. As the steel is lowered, turn it steadily until the solder flows, hold the rod firmly and lift the steel with a sudden twist to swing the melted solder around the groove evenly. Keep the center rod on the cap until the solder sets, which will take but a few seconds.

*Exhausting.*—Exhausting is the driving out of the surplus air before completely sealing the can. This is done to prevent swelling of the can from the expansion of the air in the can during hot weather, which might cause the can to be taken for a “swell” caused by spoilage due



FIG. 4.—Packing the meat in cans.



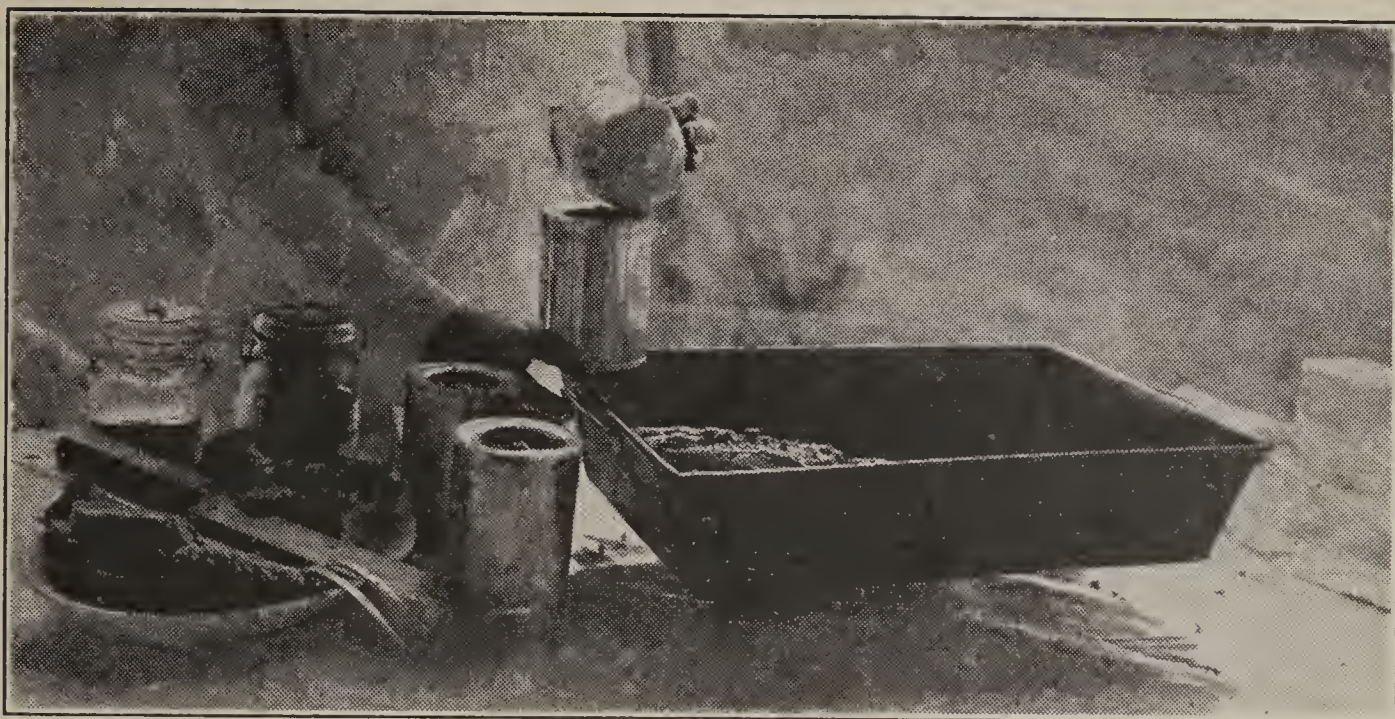


FIG. 5.—Filling the gravy in the cans.

to bacterial action. Furthermore, the presence of air may cause the canned material to act on the tin and produce salts of tin, which are objectionable from the standpoint of health. If meat is placed cold in the cans it will always be necessary to exhaust. Place the cans in a wire tray and lower into boiling water to within one inch of the top in order to drive the air out of the cans. From 5 to 8 minutes, or just time enough to cause the contents of the can to be heated to about  $180^{\circ}$  F., will be sufficient. Exhausting is, however, not necessary if meat is placed hot in cans and boiling gravy added, as the steam from the hot gravy will drive out the air and the cans may then be sealed at once. When sanitary cans are used the exhausting is done before the top is put on.

*Tipping.*—Close the small hole in the top of the can (in the cap) immediately after exhausting or, when filled with hot meat and gravy, immediately after capping. Apply flux as for capping and use a little wire solder (bar solder can be used in case the wire solder is not at hand). Hold the solder with the left hand near the hole and barely touch with the hot copper, after it has been dipped in the flux, so only a bead will drop and cover the hole.

*Testing for leaks.*—It is essential that the soldering shall completely seal the cans. It is, therefore, necessary to test the cans before processing in order to be sure there are no leaks. If the cans have been filled too full or a piece of meat touches the top, it is almost impossible to make the proper seal and little pin holes will be formed in the melted solder. The center rod of the capping steel should never be so pointed that it closes the little vent hole entirely when sealing a can containing hot liquid, as the steam formed in that case will try to escape through the melted solder and thus very often cause pin holes. Test by submerging the cans in boiling water. The heat will cause



little air bubbles to come through where there are leaks. The can must then be resoldered before processing.

*Processing.*—Processing is the sterilization of the cans after sealing. Pour boiling water in the steam-pressure canner until it rises nearly to the level of the platform but not over it (generally to a depth of from 1 to 1½ inches in the small home pressure canners). Place the canner over the fire so the water can boil vigorously, put the cans to be sterilized in the crate that is furnished with the canner (or place directly on the platform in the canner), lower this into canner, put on the cover, and screw down the clamps so the cover is steam tight. Leave the petcock open until steam escapes, then partly close, so that only a very small amount of steam escapes. Where the safety valve is adjustable, adjust it to “blow off” at the temperature desired, generally 15 pounds at least. Raise the temperature by means of a quick fire until the gauge on the cover of the retort shows 15 pounds of steam pressure. Count time from the moment this pressure has been reached, which is equal to a temperature of 250°. At this temperature the spores of all varieties of bacteria destructive to canned meats can be killed. A lower fire will now keep the heat up. Keep the temperature uniform at 250° or 15 pounds of steam pressure until the time is up, then open the petcock or safety valve to let all steam escape before unfastening the clamps that hold the cover down. When the gauge shows that all the steam has escaped, unfasten the clamps, take off the cover, and lift out the cans. The cans are now sterilized. Test for leaks by one of the several methods used for this purpose. For instance, while the cans are hot, place them on the floor and tap each one with a little stick. A tight can will give a clear, ringing, metallic sound; a leaky can a dull sound. If leaks are found the cans must be resoldered and again processed in the canner. Immerse the sealed cans in cold water to cool the cans quickly and stop the cooking of the products in the cans.

#### CANNING IN GLASS.

For canning in glass, the jars are washed clean and put in cold water in a vessel with a false bottom of slatted wood, heated to the boiling point and kept boiling from 10 to 15 minutes. This helps to thoroughly clean the jars and makes it possible to fill them with hot meat and gravy without so much danger of breakage. The glass jars are filled with meat and gravy in just the same way as tin cans. Adjust the rubber and put the lid in place. If screw-top jars are used, put the top in place but do not screw it down tight (leave about half a turn loose). For glass-top jars adjust the rubber and glass top. See that the spring is not too loose. Put the wire clamp up over the top but do not press down the spring. For glass tops fastened with a screw ring, fasten the top in position but do not make perfectly tight. When “hermetic” seal cans are used, seal as with the other jars. Adjust the



metal cap which has a sealing composition on the inside of the lid (be sure to see that the sealing composition is even all around in the lid, as a leak will appear if the composition is broken in places). Adjust the clamp to hold the lid in place and put in the canner.

Exhausting is not necessary with glass jars as the heating will force the excess of air out around the lid. When glass jars are processed the canner should not be heated so high that steam "blows off" through the safety valve, since this will cause a difference in pressure between the steam on the outside of the jar in the canner and that inside of the jar, resulting in a part of the contents being forced out, or the rubber being pushed out of place. The temperature must of course be high enough to sterilize the contents, which, for meats, is not less than 15 pounds of steam pressure. At the end of the period of sterilization do not let the steam escape from the canner, but turn out the fire or lift the canner from the fire and let it cool until the steam gauge shows that there is no more steam pressure in the canner. Then open the petcock, unfasten the clamps, and remove the cover, lift out the jars carefully, avoiding any draft, as cold air striking them is liable to cause breakage, seal immediately by fastening the lid or pressing down the wire springs (the "hermetic" seal jar does not need any attention), and allow to cool in a place free from draft. When cold test for leaks. If any are found the products will have to be resterilized at the temperature and for the time given for regular sterilization. The rubber may also have to be changed before resterilization.

### RECIPES.<sup>1</sup>

The following recipes are given to show how freshly caught fish, sea foods, and home-butchered animals or fowls may be made into palatable and economical dishes and canned for future use. The recipes are merely guides and may be changed to suit the individual taste. The time and temperature given for sterilization should not, however, be changed. It is also *necessary that nothing but absolutely fresh and cleanly handled meats and sea foods be used.*

#### THE CANNING OF MEATS.

##### ROAST MEAT.

Select the piece of meat wanted for roast, trim, and wipe with a damp cloth. Heat some grease in a roasting pan, put in the meat and sear quickly, turning the meat so all sides are seared (this prevents the loss of meat juice during cooking). As soon as well seared sprinkle with salt and pepper to taste. Add some boiling water to the grease in the roasting pan. Baste frequently. Turn the meat from time to time and roast so it is nicely browned. Cook until meat is done (it should not be red in the center) without cooking it entirely tender. Slice and pack in cans to within  $\frac{1}{2}$  inch from top of can. Add the gravy from the roasting pan with boiling water added so it barely covers the meat. (Leave at least  $\frac{1}{4}$  inch space between gravy and top of can.)

<sup>1</sup>In these recipes, the time is given for tin cans. Pint jars require the same time for processing as the No. 2 tin cans, and quart jars the same time as the No. 3 tin cans.

The above general recipe may be changed to suit the individual taste, and the roast may be larded or trimmed with sprigs of parsley, cloves, etc., according to desire.

*For a beef roast* weighing 8 to 10 pounds use 2 to 3 tablespoons of grease, 1 to 2 tablespoons of salt (according to taste),  $\frac{1}{2}$  to 1 teaspoon of pepper (to taste), and  $\frac{1}{2}$  to 1 cup of boiling water. Baste frequently.

*For pork roast.*—Season as for beef. If ham is used and skin is left on, cut with point of knife just through skin, so as to dice skin and trim with cloves and little tufts of parsley (if desired). Add 2 small turnips to roasting pan. Leave skin-side up (do not turn), baste frequently, and cook until skin is nicely browned and crisp.

*For roast ham.*—Where skin and fat are removed before roasting, lard with narrow strips of larding pork, alternating with rows of little tufts of parsley. Add one small turnip and one small root of celeriac, a few cloves, and five or six whole peppercorns to roasting pan. Meat may be rubbed with clove of garlic if desired. Season as for beef roast. Baste frequently.

*For roast veal.*—Lard and trim with parsley. Use seasoning as for beef roast, but add a few carrots and one small onion to roasting pan.

*For roast mutton, lamb, or kid.*—Trim in rows with small tufts of parsley, season as for beef. Add a few carrots to roasting pan.

*For all kinds of roast.*—Cap (exhaust 5 minutes if meat and gravy have cooled; if cold, exhaust 10 minutes; if hot, exhausting is not necessary), tip, and process in steam-pressure canner:

No. 1 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 2 cans 45 to 50 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 to 60 minutes at 250° F. or 15 pounds of steam pressure.

In case meat is fat, time of processing must be prolonged 10 minutes.

#### CORNERED BEEF.

*Curing.*<sup>1</sup>—"The pieces commonly used for corning are the plate, rump, cross ribs, and brisket, or in other words the cheaper cuts of meat. The pieces for corning should be cut into convenient-sized joints about 5 or 6 inches square. It should be the aim to cut them all about the same thickness so that they will make an even layer in the barrel.

Meat from fat animals makes choicer corned beef than that from poor animals. When the meat is thoroughly cooled it should be corned as soon as possible, as any decay in the meat is likely to spoil the brine during the corning process. Under no circumstances should the meat be brined while it is frozen. Weigh out the meat and allow 8 pounds of salt to each 100 pounds, sprinkle a layer of salt one-quarter of an inch in depth over the bottom of the barrel; pack in as closely as possible the cuts of meat, making a layer 5 or 6 inches in thickness; then put on a layer of salt, following that with another layer of meat; repeat until the meat and salt have all been packed in the barrel, care being used to reserve salt enough for a good layer over the top. After the package has stood over night add, for every 100 pounds of meat, 4 pounds of sugar, 2 ounces of baking soda, and 4 ounces of saltpeter, dissolved in a gallon of tepid water. Three gallons more of water should be sufficient to cover this quantity. In case more or less than 100 pounds of meat is to be corned, make the brine in the proportion given. A loose board cover, weighted down with a heavy stone, or piece of iron, should be put on the meat to keep all of it under the brine.

<sup>1</sup> The recipe for curing is taken from Farmers' Bulletin 183, "Meat on the Farm; Butchering, Curing, and Keeping." By Andrew Boss.



It is not necessary to boil the brine except in warm weather. If the meat has been corned during the winter and must be kept into the summer season, it would be well to watch the brine closely during the spring, as it is more likely to spoil at that time than at any other season. If the brine appears to be ropy or does not drip freely from the fingers it should be turned off and new brine added, after carefully washing the meat. The sugar or molasses in the brine has a tendency to ferment, and, unless the brine is kept in a cool place, there is sometimes trouble from this source. The meat should be kept in the brine 28 to 40 days to secure thorough corning."

*Canning.*—When ready to can, place the meat in a kettle and cover with cold water. Bring slowly to a boil and simmer for 1 hour. Remove the meat and cut in pieces that can pass through can openings. Return the soup or liquid in which the meat was boiled to the fire and season with bay leaves, cloves, and nutmeg to taste. Pack the meat in cans and cover with the seasoned soup to which some gelatine dissolved in cold water has been added. Cap, exhaust 5 minutes if cooled, tip, and process.

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

May also be processed for 1¾ hours at 235° F. or 8 pounds of steam pressure.

#### BEEF ROLLS.

Slice some round steak or other pieces of beef about ¼ to ½ inch thick. Cut in pieces about 3 or 4 inches wide and 6 inches long. Sprinkle with salt, pepper, and finely chopped onions. Cut some bacon in thin slices and put a slice of this on each piece of meat. Roll each piece up tight and tie with a string. Heat some lard in a deep frying pan, put in the rolls, and let brown nicely from all sides. Pour off excess of grease, add water or soup stock, and let simmer for about 35 minutes. Remove the strings from the rolls and pack hot into cans. Fill with the hot gravy to within ½ inch of top of can. Cap, tip, and process:

No. 2 cans 60 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 80 minutes at 250° F. or 15 pounds of steam pressure.

#### BEEFSTEAK.

The sirloin of beef is skinned and cut into suitable pieces for steak. Some butter or grease is heated in a frying pan. The sliced steak is put in the hot grease and quickly seared on both sides. It is then sprinkled with salt and pepper to suit taste and nicely browned, then packed in the cans. (If desired, sliced onions, nicely browned, or small boiled and browned Irish potatoes may be packed in with the meat.) The cans are then filled to within ½ inch from top with hot gravy made from the pan grease with water added. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

#### GOULASH.

2 pounds of meat (beef, veal, or heart of pork may be used.)	6 whole cloves.
2 ounces of butter or any good fat.	6 peppercorns.
2 onions (medium size) chopped fine.	1 blade mace
1 carrot (medium size) finely sliced.	1 pinch of thyme.
1 stalk celery cut in small pieces.	1 tablespoon finely chopped parsley.
1 pint tomatoes (canned or fresh tomatoes.)	Salt and pepper to taste.
	Paprika to taste.
1 to 2 bay leaves.	A little flour.

Cut the meat into 1-inch squares and sprinkle with flour mixed with salt and pepper. Melt the fat in a frying pan, add the chopped onions, carrot, and celery when fat is hot and brown lightly; add the meat and brown, while stirring frequently with a spoon to keep from scorching. When nicely browned empty into a stew pan and add bay leaves, cloves, peppercorns, mace, and thyme tied up in a little bag of cheesecloth, also tomatoes or tomato puree. Cover with water or soup stock and simmer for 45 minutes (for 2 hours if to be served at once and not canned). Remove the bag of spices, and season by adding salt, pepper, and paprika to taste. Soy or Worcester sauce may be added in small quantities if desired. Add the parsley. Fill hot into cans, cap, tip, and process:

No. 1 flat cans 35 minutes at 250° F. or 15 pounds steam pressure.

No. 2 cans 45 minutes at 250° F. or 15 pounds steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds steam pressure.

Serve with mashed potatoes garnished with chopped cucumbers or pickles.

The cheaper cuts of meat may be used in making goulash. If the different ingredients in this recipe are not at hand a good goulash can be made by using meat, fat, onions, tomatoes, flour, salt, and pepper and leaving out the balance of the ingredients.

Goulash may also be made from meat scraps.

#### SOUP STOCK.

All bones, whether raw or cut from steak, roast or other cooked meats, should be utilized for soup stock. Marrow bones should be sawed in pieces. The cleaned and soaked head, split in two, with eyes and soft bones from nostrils removed, and the cleaned feet with hoofs removed, may also be added for soup stock. All sinews and meat scraps not otherwise utilized may also be added. Cover with cold water, lightly salted, bring to a boil and simmer until bones are entirely exhausted for soup stock. Remove bones and meat scraps. Bones may be dried and ground for poultry feed or used as fertilizer. Meat scraps may be utilized for meat loaf. The soup stock should be strained, excess of grease skimmed off. If not condensed enough to jelly when cold, let simmer until the right consistency is reached, fill hot into cans to within ½ inch of top. Can, tip, and process:

No. 2 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

#### MEAT LOAF (BOILED MEAT SCRAPS).

Use meat scraps, boil and let cool (or the meat scraps left on the bones when cutting up for canning, and boiled with the bones for soup stock, may be removed from the bones after the soup stock is made and utilized according to this recipe), run through meat grinder twice and mix thoroughly with the following ingredients for each 5 pounds of the chopped meat:

- |   |  |
|---|--|
| 5 tablespoons of bread crumbs.                  | 2 teaspoons crushed celery seed.                           |
| 4 to 5 teaspoons of salt (or salt to taste).    | Onion juice or finely chopped onion may be added to taste. |
| 1½ to 2 teaspoons pepper.                       | 2 eggs beaten together, or                                 |
| 3 teaspoons poultry seasoning or sage.          | 1 package of gelatine dissolved in a little cold water.    |
| 1 teaspoon cloves.                              | 1 or 2 cups soup stock, according to dryness of meat.      |
| ½ teaspoon allspice.                            |  |
| ½ to 1 teaspoon thyme.                          |  |
| 2 to 3 bay leaves broken up finely or powdered. |  |



Mix thoroughly and fill warm in No. 1 flat or No. 2 cans to within  $\frac{1}{2}$  inch of top of can, cap, exhaust 5 minutes, tip, and process:

No. 1 flat cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 2 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

#### ITALIAN STYLE STEW.

5 pounds lima beans (dry).	5 finely chopped onions.
1 pound fat (good butter, olive oil, plant fat, or good melted kidney fat).	White ground pepper to taste.
	Salt to taste.
2 No. 3 cans tomato pureé or canned or fresh tomatoes.	Fresh meat scraps, raw sinews or bones (may be omitted).

Soak the lima beans (butter beans) for 24 hours or a little longer if it can be done without the beans souring. The outer skin of the beans may be left in or removed as preferred. Put over the fire in enough cold water to cover well. At the same time add the fat, tomato pureé or sliced tomatoes, onions, meat scraps or bones, and white pepper to taste. Cook until beans are tender. Then add salt to taste. Remove the sinews and bones, pack boiling hot in cans. Cap, tip, and process:

No. 2 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 60 minutes at 250° F. or 15 pounds of steam pressure.

#### SWEETBREADS.

Clean 12 sweetbreads and soak in cold water for 2 hours, changing the water several times. Drain well and put them into lightly salted, boiling water for 5 minutes (1 teaspoon salt in 2 quarts of water). Remove and drain thoroughly. They may be canned after the blanching and the can filled to within  $\frac{1}{2}$  inch of top with boiling water with salt added (1 teaspoon per quart of water). Process as below or they may be prepared as follows:

Put 1 ounce of lard and 2 teaspoons of butter in a saucepan and heat. As soon as hot, add 1 sliced carrot (medium size), 1 sliced onion (medium size), 1 branch of celery, chopped fine, 1 branch of parsley, chopped, 1 stock of leek, sliced, 2 ripe tomatoes, cut fine,  $\frac{1}{2}$  teaspoon thyme, 2 cloves, pinch of allspice and 1 bay leaf, broken in little pieces. Brown lightly, add the 12 blanched sweetbreads and sprinkle over them  $\frac{1}{2}$  teaspoonful salt (or salt to taste). Bring to a boil. Pack in cans with the gravy (if there is not enough gravy add boiling water or soup stock). Cap, tip, and process:

No. 1 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 2 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

#### TONGUE.

The tongues (beef, veal, pork, lamb) may be cleaned, salted and lightly smoked, then boiled, skin removed, and packed in cans with a little soup stock or meat jelly added. They may also be cleaned thoroughly, rubbed heavily with salt and left standing with salt sprinkled over them for 8 to 10 hours. Then boil until done, remove the skin, and pack in cans with a little of the liquid in which they were boiled (thinned with some boiling water in order not to be too salty). In either case cap, tip, and process:

No. 1 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 2 cans 50 minutes at 250° F. or 15 pounds of steam pressure.



## BRAINS.

The brains should be soaked in several changes of cold water to draw out the blood and the membranes removed. The brains may then be fried in hot grease, sprinkled with salt and pepper, packed in No. 1 flat cans, and the grease in which the brains were fried, thinned with a little hot water, added. Cap, tip, and process:

No. 1 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

HEAD CHEESE.<sup>1</sup>

"Cut a hog's head into four pieces. Remove the brains, ears, skin, snout and eyes. Cut off the fattest parts for lard. Put the lean and bony parts to soak over night in cold water in order to extract the blood and dirt. When the head is cleaned put it over the fire to boil, using water enough to cover it. Boil until the meat separates readily from the bone. Then remove it from the fire and pick out all the bones. Drain off the liquor, saving a part of it for future use. Chop the meat up finely with a chopping knife. Return it to the kettle and pour on enough of the liquor to cover the meat. Let it boil slowly for fifteen minutes to a half-hour. Season to taste with salt and pepper just before removing it from the fire." Bay leaves, a little ground cloves and allspice may be added and boiled a while in the soup. If not condensed enough to form jelly, a little gelatine may be dissolved in cold water and mixed well with the cheese just before filling into cans. Pack while hot in cans to within ½ inch of top. Cap, tip, and process:

No. 2 cans 50 minutes 250° F. or 15 pounds of steam pressure.

When ready to serve, thoroughly chill the can before opening. Serve cold.

## SPARE RIBS.

Roast the spare ribs in the usual way, seasoning to taste. Cook until done, browning them nicely. With a sharp knife cut down the inside of each rib, remove the rib bone, and cut meat into pieces that can pass through the can openings. Make gravy by adding water to the pan grease. Pack meat in cans and add the boiling hot gravy to within ½ inch from top of can. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 60 minutes at 250° F. or 15 pounds of steam pressure.

## KIDNEYS.

The kidneys should be split open and the little sack in the inside removed, then soaked in several changes of lightly salted water. They may be cut into slices about ¼ to ½ inch thick, lightly seared in hot grease, sprinkled with salt and pepper, and fried to a brown color. Some onions are peeled, sliced, and nicely browned in hot grease. The kidney slices and onions are packed into cans and a hot gravy made by adding water to the pan grease is filled in to within ½ inch from top. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds of steam pressure.

Kidneys may also be prepared as a stew or ragout and filled hot into cans. Cap, tip, and process for same length of time as for fried kidneys.

<sup>1</sup> This recipe is taken from Farmers' Bulletin 183, "Meat on the Farm; Butchering, Curing, and Keeping." By Andrew Boss.



BOLOGNA STYLE SAUSAGE.<sup>1</sup>

"To each 10 pounds of lean beef use 1 pound of fat pork, or bacon, if preferred. Chop finely and season with 1 ounce of salt to each 4 pounds of meat, 1 ounce of the best black pepper (ground, pure) to each 6 pounds of meat, and a little ground coriander. Stuff into casings called beef "middles" or beef "rounds,"—smoke for 10 or 12 hours." Cook in boiling water until the sausages float. Take up the sausages, cut into can lengths, pack in cans and add hot liquid in which the sausages were cooked to within  $\frac{1}{2}$  inch of top. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

## PORK CAKES.

4 pounds lean pork.	2 large onions, minced.
2 pounds fat pork.	1 clove garlic, minced (may be omitted).
2 or 3 tablespoons salt, or salt to taste.	2 bay leaves, powdered or broken in small pieces.
1 teaspoon black pepper.	1 teaspoon celery seed, crushed (may be omitted).
1 teaspoon red pepper.	6 to 12 tablespoons dry, finely crumbed bread or cracker crumbs.
1 teaspoon chile pepper (to taste).	2 eggs beaten together.
$\frac{1}{2}$ teaspoon allspice.	$\frac{1}{2}$ to 1 cup of sweet milk.
2 or 3 teaspoons sage (or poultry seasoning).	
$\frac{1}{2}$ to 1 teaspoon thyme.	

Knead well, form in cakes, fry in deep fat until nicely browned, pour off excess of grease, add water and make gravy. Two or three cookings may be made in one lot of grease. Pack in cans, fill in with hot gravy to within  $\frac{1}{2}$  inch of top of can. Cap, exhaust 5 minutes (exhausting is not necessary if packed hot in cans and sealed at once), tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds of steam pressure.

## LIVER SAUSAGE.

*Beef, veal, or hog liver.*—Remove the membrane and cut away the large blood vessels. Soak in water 1 to 2 hours to draw out blood. Boil until done. When cooled put through a food chopper or grate finely. Take half as much boiled fat pork as liver. Divide this fat into two portions; chop one portion into one-quarter inch cubes; pass the other portion through the food chopper; mix all together thoroughly; add salt, ground cloves, pepper, and a little grated onion to taste. A little thyme and marjoram may be added to suit taste. (For a liver weighing  $1\frac{1}{2}$  pounds add  $\frac{3}{4}$  pound fat pork, 3 to 4 teaspoons salt,  $\frac{1}{2}$  teaspoon cloves,  $\frac{1}{2}$  teaspoon pepper, 1 small onion,  $\frac{1}{4}$  teaspoon thyme, and pinch of marjoram). This mixture is stuffed into large casings. (If no casings are available, make casings of clean white muslin.) Cover with boiling water, bring to a boil, and boil for 10 minutes. Pack into cans, fill in with the water in which the sausages were boiled. Cap, exhaust 5 minutes if cooled (if packed hot, exhausting is not necessary), tip, and process:

No. 2 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 65 minutes at 250° F. or 15 pounds of steam pressure.

This liver sausage may also be made from the raw liver and raw pork. In that case proceed as for above recipe as to seasoning, etc., but process the cans 10 minutes longer at temperature given.

May be served hot or cold.

<sup>1</sup> This recipe is from Farmers' Bulletin 183, "Meat on the Farm; Butchering, Curing, and Keeping." By Andrew Boss.



## LIVER PASTES.

*Foie gras paste.*—Three pounds of fresh goose livers are thoroughly cleaned (if any green from the gall bladder is found it must be removed), washed in water and boiled with a little water until the inside is no longer rare. Have 4 pounds of fat belly pork well boiled, and when cold mix with livers and pass through meat grinder. Mix 2 or 3 softened rolls or corresponding amount of stale, dried bread crumbs. Pass again through meat grinder. Then knead with 1 ounce of salt, pepper, cloves, and spices to taste and if desired 3 ounces canned truffles cut into about  $\frac{1}{4}$ -inch cubes. Finally mix with the beaten-up white of 11 eggs and put the mixture into cans. Small-size cans are preferred. Cap, exhaust 5 minutes, tip, and process:

4-oz. glass jars 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 1 flat tin cans 45 minutes at 250° F. or 15 pounds of steam pressure.

*Veal or hog-liver paste.*—

1 medium size liver (about 3 pounds).	1 teaspoon ground cloves.
1½ pounds fresh fat pork.	1 small onion, grated.
$\frac{1}{4}$ pound butter.	3 eggs.
$\frac{1}{4}$ pound flour.	Milk (needed).
1 teaspoon pepper.	Salt to taste.

The fat is chopped very fine. The butter and flour are baked together in a kettle, then thinned with milk to a very soft gruel. Into this put the chopped fat. Cook over a very slow fire, in order not to scorch, until fat is pretty well cooked out.

In the meantime get the liver ready. Wash well, remove the skin, and cut away all veins and membranes. Scrape or pass through a meat grinder, then place this mass on a fine sieve or strainer. Into it pour the warm thickening little by little and together with the liver rub through. Into this liver mass as passed through the sieve stir 3 yolks, 1 teaspoon pepper, 1 teaspoon ground cloves, plenty of salt (about 2 tablespoons or more according to taste), 1 small grated onion, and the beaten whites of the 3 eggs. Pour into cans that must not be entirely full. Cap, exhaust 5 to 8 minutes, tip, and process:

4-oz. glass jars 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 1 flat tin cans 45 minutes at 250° F. or 15 minutes of steam pressure.

NOTE.—A very good liver paste can be made by taking liver and fat pork as in above recipe, pass through meat grinder twice, stir well with 2 tablespoons salt, 1 teaspoon pepper, 1 teaspoon ground cloves, 1 finely chopped medium-size onion, 6 tablespoons cracker or dried bread crumbs, 3 eggs beaten together, and  $\frac{1}{2}$  cup of sweet milk. Fill into cans; cap, exhaust, tip, and process as above stated.

## PIGEONS.

*Young birds.*—Dress birds, wash well, lard with little strips of salted fat bacon in a row on each side of breast or use little strips of fat bacon by side of breast, stuff with some parsley and giblets, and roast for one-half hour, basting frequently. Salt to taste, split lengthwise, place in cans, pour hot gravy over them to within one-half inch of top of can. Cap, tip, and process:

No. 2 cans 1 hour and 15 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 1 hour and 30 minutes at 250° F. or 15 pounds of steam pressure.

*Old birds.*—Dress birds, wash well, put three tablespoons of lard, three of butter, in a kettle. In this fry the pigeons to a nice rich-brown color. Have some onions peeled, chop fine and brown in butter or lard or a mixture of



these. (For 12 pigeons take three-fourths of a pound of onions.) Add browned onions and fat to pigeons. Season with some peppercorns, two cloves, one or two bay leaves (cloves and bay leaves can be omitted if not desired). Cover with water, simmer until the meat is tender and may be removed from the bones. Add from time to time a little boiling water to keep birds covered. When the birds are tender, remove from the fire. Remove the meat from the bones. Return the meat to the gravy, adding to taste, salt, chopped parsley, and celery. Pack while boiling hot into cans and fill with gravy to within  $\frac{1}{2}$  inch of top. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

*Small game birds* may be canned like pigeons. Blackbirds treated like old pigeons make a very nice stew. When small game birds are canned with the bones left in, they should be processed for No. 2 cans 1 hour and 15 minutes at 15 pounds of steam pressure.

#### ROAST FOWL.

Clean the fowl, wash and wipe dry. If turkey, goose, or guinea fowl, lard the breast or cover it with thin slices of larding pork. For chicken and duck tie small pieces of larding pork over breast. Put two tablespoons lard and butter mixed in a roasting pan. Place in oven, and when hot lay turkey or fowl in the hot grease and turn until seared on all sides. Season turkey or goose with 1 tablespoon of salt sprinkled all over and  $\frac{3}{4}$  of a teaspoon of pepper (for smaller fowls use less salt and pepper). Pour into roasting pan half a cup of boiling water. Place in oven to roast, and baste frequently with the liquid in the pan, turning the fowl once in a while to get it nicely browned. Cook until done without needing to be entirely tender. Remove from oven, place on platter, and cut meat from bones. Cut into pieces that can pass through can openings. Pack into cans. Skim excess of fat from gravy, and pour gravy over meat in cans until half an inch from top (if not enough gravy add boiling water). Cap, exhaust 5 minutes if cooled, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds of steam pressure.

*Game birds* may be treated as above, but should be stuffed with some parsley.

*Soup*.—The bones of the turkey, chicken, goose, or duck with any adhering meat, and the scalded and skinned feet are put on to boil in cold water (enough to cover) and simmered for several hours until bones are exhausted for soup stock, which is cooked down until very strong, strained, and poured hot into cans to within half an inch from top. Cap, tip, and process:

No. 2 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

*Potted meat*.—What meat was left on the bones may now be removed and ground fine in a meat grinder, mix with salt and spices to taste, and add a little soup stock or gelatine (dissolved in cold water). (Use to 1 pound of meat, 1 or  $1\frac{1}{2}$  teaspoons salt,  $\frac{1}{2}$  teaspoon pepper, other spices to suit taste.) Fill hot into No. 1 flat cans, cap, tip, and process:

No. 1 flat cans 35 minutes at 250° F. or 15 pounds of steam pressure.

#### FRIED CHICKEN (SPRING FRIER).

Clean in the usual manner, split lengthwise or cut into quarters. Sear in hot grease, sprinkle with salt and pepper or, if preferred, dip into flour or cracker crumbs mixed with salt and pepper. Fry until nicely browned in the same way as preparing for the table. The canning may now be done in different ways, as follows:

Canning dry without removing the bones: Pack in the thoroughly cleaned and sterilized cans, add no liquid. Cap, exhaust 8 minutes, tip, and process:

No. 2 cans 1 hour and 30 minutes at 250° F. or 15 pounds of steam pressure.

Canning with gravy, without removing the bones: Pack in the sterilized cans, fill to within  $\frac{1}{2}$  inch from top of can with boiling hot gravy made from the pan grease with addition of water or soup stock, cap, tip, and process:

No. 2 cans 1 hour at 250° F. or 15 pounds of steam pressure.

Canning after removing bones: Prepare as above stated, cut meat from bones and pack into sterilized cans, add hot gravy to within  $\frac{1}{4}$  or  $\frac{1}{2}$  inch from top of can. Cap, exhaust 5 minutes if meat and gravy have cooled, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

Bones may be utilized for making soup stock as mentioned under description of roast fowl.

#### FRICASSEED CHICKEN.

Clean the chicken in the usual manner and cut in pieces. Place in a kettle with enough water to cover. Tie in a bunch, for each 2½ pounds of chicken, 2 branches of parsley, 1 small branch celery, a sprig of thyme, 1 bay leaf, and small piece of leek. Add 1 teaspoon salt and  $\frac{1}{2}$  teaspoon pepper. Let boil for 15 minutes. Add 12 small peeled white onions and 1 good-sized potato, pared and cut into little cubes. If desired, 2 or 3 ounces of sliced and diced pork may be added. Cook for  $\frac{1}{2}$  hour. Remove chicken and herbs, cut meat from bones, and return it to the kettle. Let come to a boil, pack into the cans to within  $\frac{1}{2}$  inch from top, distributing meat and soup evenly between cans. Add a little finely chopped parsley to each can. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

When serving, empty contents of can into stew pan, heat, and add a little flour stirred with cold water for thickening. The beaten yolk of an egg and a little butter may also be added.

#### CHICKEN SOUP.

1 chicken, old fowl may be used, weighing 4 to 5 pounds.	1 or 2 carrots.
3 quarts of cold water.	1 turnip.
1 leek.	Salt and pepper to taste
2 or 3 branches of celery.	Chopped parsley.

Clean the chicken carefully and cut in pieces. Place in a kettle and pour the 3 quarts of cold water on it. Cook slowly or simmer until the chicken is tender. If the above mentioned vegetables can be had, tie them into a "bouquet" and let boil in with the meat about 1 hour before the meat is done. Remove the meat,<sup>1</sup> add salt and pepper to taste, and if the vegetables can not be had, the flavor may be improved by crushing a teaspoon of celery seed and boiling that in with the soup. Fill while boiling hot into cans, add a little finely chopped parsley to each can, cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds of steam pressure.

When ready to use, reheat and serve with dumplings made as follows:

$\frac{1}{4}$ pound of flour.	4 eggs.
2½ ounces of butter.	A little salt.
Scant $\frac{1}{2}$ pint of boiling water.	A little sugar.

<sup>1</sup> The meat may be cut from the bones, diced and returned to the soup and canned with it, or may be ground in a meat grinder, seasoned with salt and pepper to taste, a little soup stock with gelatine added and canned as potted meat (see under Roast Fowl).



Melt the butter in a frying pan, stir in the flour, and bake together with constant stirring. To this add the scant half-pint of boiling water, a little at a time, stirring it until smooth and well done (bake it until the butter is coming well out). Then pour it into a crock to cool. When it has cooled sufficiently, stir in four eggs, one at a time, a little salt and sugar. Pat the dough smooth and with a spoon, first heated in the soup or in hot water, form little oval balls or dumplings and drop into the boiling soup or into boiling lightly salted water. The dumplings sink to the bottom, but as they are heated through, they will rise to the surface, where they must be turned off and on until they are done. There will be 20 or 25 dumplings of the amount given. If desired the dumplings may be made the day before they are to be used, placed on an inverted plate on a large platter and just reheated in the soup before serving.

These dumplings may also be served in hot milk or in thinned and sweetened fruit juice thickened with a little rice flour or corn starch.

#### CHICKEN GUMBO.

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|---|---|
| 1 chicken weighing 4 or 5 pounds (old fowl may be used).              | A few peppercorns.  |
| 6 good-sized onions.  | 2 red pepper pods.  |
| 2 No. 3 cans of tomatoes (or corresponding amount of fresh tomatoes). | $\frac{1}{2}$ teaspoon thyme.   |
| 3 tablespoons butter.   | 2 tablespoons salt (or salt to taste).  |
| 3 tablespoons lard.   | 4 quarts boiling water.   |
| 6 whole cloves.   | 2 No. 3 cans chopped or sliced okra (or a corresponding amount of fresh sliced okra). |
| 2 bay leaves.   | Parsley and celery to taste.  |

Clean the chicken and cut to pieces. Melt the lard and butter in a frying pan. When hot put in the chicken and fry to a nice brown color. Take out the chicken and place in a stew pan. Peel the onions and chop fine; put them into the hot grease in which the chicken was browned and fry brown. Add this with what grease is left in the pan to the chicken. To this add the tomatoes, cloves, bay leaves, peppercorns, pepper pods, thyme, and boiling water. Let the whole mixture simmer until meat slips from the bones. Take out the bones, mince the meat, return it to the soup mixture, add the salt, some chopped parsley and celery, and the canned okra. (If fresh okra is used, it should be added with the tomatoes.)

Fill boiling hot into cans, cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 55 minutes at 250° F. or 15 pounds of steam pressure.

Serve with cooked rice molded in a cup and the chicken gumbo poured around it.

#### CHICKEN SPAGHETTI.

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|---|--|
| 1 chicken weighing 4 or 5 pounds (an old fowl may be used). | 2 bay leaves.  |
| $1\frac{1}{2}$ tablespoons of lard.                         | 6 cloves.  |
| $1\frac{1}{2}$ tablespoons of butter.                       | 1 pinch of thyme.  |
| 6 medium-sized onions, cut in small pieces.                 | 1 medium lemon, chopped, rind and all (may be omitted).        |
| 1 crown of garlic, cut in small pieces (may be omitted).    | 2 No. 3 cans of tomatoes or the same amount of fresh tomatoes. |
| 2 red pepper pods.  | 2 tablespoons of salt (or salt to taste).                      |
|   | 3 pounds of best spaghetti.                                    |

Clean the fowl, cut into pieces, add 4 quarts of water. Stew until the meat can be removed from the bones. Remove the bones and mince the meat. Return the meat to the liquid.

Put the lard and butter into a frying pan, heat, and fry in it the onions and garlic until nicely browned. Add this to the fowl and add the pepper pods, bay leaves, cloves, thyme, lemon, and tomatoes. Let simmer.

Break the spaghetti in small pieces, put in a colander, rinse well, and put immediately into boiling salted water and let boil for 20 minutes. Drain and cover with cold water to prevent sticking together. Drain again and add to the above mixture. Add salt and, if the fowl was not fat, add  $1\frac{1}{2}$  cups of best olive oil. Mix thoroughly, fill in cans, cap, exhaust 5 minutes (if filled in cans boiling hot exhausting is not necessary), tip, and process:

No. 2 cans 40 minutes at  $250^{\circ}$  F. or 15 pounds of steam pressure.

No. 3 cans 50 minutes at  $250^{\circ}$  F. or 15 pounds of steam pressure.

This may be served hot or cold, or may be covered with grated cheese and baked brown.

#### THE CANNING OF FISH AND OTHER SEA FOODS.

Do not attempt to can fish unless very sure they are absolutely fresh. As soon as fish are caught it is well to kill them with a knife and let the blood run out. Scale fish. (It is easier to remove scales if the fish is dipped in boiling water.) If skin is very tough remove it and wash the fish clean. Remove entrails and the dark membrane that in some fish (e. g., mullets) covers the abdominal cavity. For small fish the backbone may be left in. For the larger fish remove the backbone and utilize it with what meat adheres to it for making fish chowder.

In order to draw out all blood before canning, place the fish in brine made in the proportion of one ounce salt to a quart of water. Let soak from 10 minutes to 1 hour according to thickness of the fish. Do not use the brine more than once.

If fish meat is loose or soft, it can be hardened by soaking in brine strong enough to float a potato. Time will vary according to thickness of fish from a few minutes to 1 hour.

*Plain canning.*—Remove the fish from the brine, drain well, and cut into can lengths. Pack closely in the can to within  $\frac{1}{2}$  inch from top. Add a small amount of salt (about  $\frac{1}{3}$  to  $\frac{1}{2}$  teaspoon). Do not fill the can with boiling water to within  $\frac{1}{2}$  inch of top. Cap, place the cans in the steam-pressure canner, and exhaust for 10 minutes at 10 pounds of steam pressure. Open the petcock and let steam escape, remove the cover, and take out the cans. Wipe the tops of the cans and tip. Return to the canner and process:

No. 2 cans 60 minutes at  $250^{\circ}$  F. or 15 pounds of steam pressure.

The fish may also be packed in cans as above described and treated as follows: Cap, exhaust 10 minutes at boiling temperature ( $212^{\circ}$  F.), tip, and process:

No. 2 cans 80 minutes at  $250^{\circ}$  F. or 15 pounds of steam pressure.

NOTE.—In either case cool the cans immediately after removal from canner by immersion in a tub of cold water.

In case large bones are left in the fish, the No. 2 cans must be processed for 1 hour and 35 minutes at  $250^{\circ}$  F. or 15 pounds of steam pressure.

For the canning of salmon or other large fish, the fish is scaled, washed free from slime, cut open and the entrails removed. It is then thoroughly washed and wiped dry. Cut in can size pieces and pack in No. 1 flat cans. It is well to place a little piece of tin, with upturned edges, under the vent.



hole of the cap. Cap, tip, and place in canner. Process 30 minutes at 228° F. or 5 pounds of steam pressure. Let the steam out and open the canner. Remove the cans and reopen the vent hole by applying the heated tipping copper to let the steam in the can escape. (This may also be done by making a fine hole in the top of the cap with a pointed instrument like a shoemaker's awl.) Retip or seal the opening made as soon as the steam has escaped. Replace in the canner and process for 75 minutes at 250° F. or 15 pounds of steam pressure. Remove the cans and cool. (In order to remove the oil or grease from outside of the cans, it is customary to put the cans into a solution of lye and water strong enough to take off the grease. Then wash the cans in clean water and cool.)

#### FRIED FISH.

Clean the fish and remove entrails. Split along the back and remove the backbone. Place in salt water strong enough to float an Irish potato. Leave in this brine, according to the thickness of the meat, from 10 minutes to 1 hour to draw out the blood and harden the meat. Drain, wipe dry, and cut in pieces that can pass through can openings. Dip into beaten egg or corn-meal (may be omitted) and put into frying basket. Fry in deep fat until nicely browned. Drain well and place the pieces on coarse paper to absorb excess of fat. Pack into No. 2 cans (inside-lacquered cans best) to within  $\frac{1}{2}$  inch from top of can. Do not add any liquid. Cap and exhaust 8 minutes, tip, and process:

No. 2 cans 1 hour and 30 minutes at 250° F. or 15 pounds of steam pressure.

#### FISH CAKES AND DUMPLINGS.

The best fish to use for this purpose is one with not too loose or soft meat. Either fresh water or salt water fish may be used.

Scale the fish, wash, and split along the back. Remove entrails, backbone, and ribs, wash again, and wipe with a coarse linen cloth. With a knife scrape out the meat in order not to use the tougher membranes. Chop the scraped meat very fine and with the help of a wooden potato masher and a wooden bowl mash and pound the fish with salt added until it forms a tough dough. Then for each  $1\frac{1}{2}$  pounds of scraped fish add  $\frac{1}{4}$  pound of butter, 4 tablespoons potato starch or 6 tablespoons corn-starch or wheat flour and corn-starch mixed. When mixed well stir in 3 eggs, one at a time, and add white pepper to taste. Stir in  $\frac{3}{4}$  to  $1\frac{1}{2}$  quarts of sweet milk until the mass is of the right consistency. With a spoon drop the batter thus prepared in little cakes on a hot greased frying pan and fry to a rich brown color. The dough may also be dropped as little dumplings into boiling salted water and cooked until done, removed and drained. In either way pack into cans and fill in the space between the fish cakes or dumplings with boiling fish stock made by boiling the backbones (with what meat adheres to them), the cleaned heads, and other fish scraps. Cap, tip, and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 60 minutes at 250° F. or 15 pounds of steam pressure.

When serving the cakes reheat on hot frying pan lightly greased.

#### FISH CHOWDER.

The backbones cut out of large fish with what meat adheres to them, the cleaned heads, and other fish scraps may be used for fish chowder.

Put over the fire in cold water (just enough to cover) and cook until the meat can easily be removed from the bones. Take up the fish and remove the

bones, strain the fish soup, and return it with the picked fish meat to kettle. Add diced onions, diced potatoes, butter, and white pepper to taste. Simmer until the vegetables are half-done. Salt to taste. Pack hot in cans, cap, tip and process:

No. 2 cans 45 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 60 minutes at 250° F. or 15 pounds of steam pressure.

When ready to serve, heat and add milk according to taste to the chowder.

A good chowder is made in the following proportions:

- |  |   |
|--|---|
| 4 Bermuda or white onions, medium size, diced. | 1 to 2 level teaspoons of salt or salt to taste.    |
| 3 potatoes, medium size, diced.                | Water to cover.                                     |
| 1 pound of fish picked from the bones.         | When ready to serve add ½ to 1 quart of sweet milk. |
| 1 level tablespoon of butter.                  |   |
| 1 level teaspoon of white pepper.              |   |

#### FISH ROE.

Use only the roe of freshly caught fish and only such roe as is known to be good to eat. (The roe of some fishes, for instance, the garfish, is not considered fit to eat.) Clean the roe by removing the shreds and strings adhering to it and wash well in cold water, being careful not to break the roe. Soak for about 2 hours in brine made by dissolving 6 ounces of salt in 6 quarts of water. Drain and pack in No. 2 cans. Cap and exhaust 10 minutes at boiling temperature (212° F.), tip, and process:

No. 2 cans 75 minutes at 240° F. or 10 pounds of steam pressure.

Inside-lacquered tin cans are preferable.

#### SHRIMP.

Shrimp should be used when absolutely fresh, as they deteriorate very quickly. They may be peeled or left with shell on until cooked. In either way they are boiled in salted water, 1 pound of salt to a gallon of water. Do not put shrimp into the water until it is boiling. If to be packed wet, boil from 5 to 6 minutes. If they were not peeled before boiling, drain through a colander and sprinkle with salt. This will harden the meat and they can more easily be peeled. Shrimp should be packed into inside-lacquered tin cans and may be packed wet or dry.

*Wet pack.*—After shrimp are boiled and peeled pack into cans and fill in with a weak brine to within ½ inch from top of can. (Brine: 1 level teaspoon of salt to a quart of boiling water.) Cap, exhaust 5 minutes, tip, and process:

No. 1 cans 12 to 15 minutes at 240° F. or 10 pounds of steam pressure.

No. 2 cans 20 to 30 minutes at 240° F. or 10 pounds of steam pressure.

*Dry pack.*—After shrimp are boiled and peeled, as above mentioned, pack dry into cans, adding no liquid. Cap, exhaust 8 minutes, tip, and process:

No. 1 cans 60 minutes at 240° F. or 10 pounds of steam pressure.

No. 2 cans 90 minutes at 240° F. or 10 pounds of steam pressure.

NOTE.—In case inside-lacquered cans can not be had, the shrimp can be put up in ordinary tin cans lined with parchment paper at sides, bottom, and top. They may also be put up in small glass jars.

*Drying of shrimp.*—After shrimp are boiled and peeled as above stated, they may be spread on cheese-cloth spread over the wire bottom of the evaporating trays and dried at a temperature of from 110° F. to 150° F. When thoroughly dry, they may be packed in dry, clean glass jars, or in parchment-paper-lined boxes.



## CRAB MEAT.

In a large kettle put 5 gallons of water to which has been added  $\frac{1}{4}$  pound of bicarbonate of soda (common baking soda). When boiling rapidly put in the live crabs and boil quickly for 20 minutes. Remove crabs and wash them in cold water. Pick out all meat, being careful not to include the shells in leg and claw joints. Wash the meat in a weak brine (1 ounce salt dissolved in 3 quarts of water). Drain and pack in inside-lacquered No. 1 flat cans. Cap and exhaust 8 minutes, tip, and process:

No. 1 flat cans 45 minutes at 250° F. or 15 pounds of steam pressure.

As soon as time of processing is up, let out the steam quickly, open the canner, and plunge the cans immediately into cold water, as crab meat otherwise will become discolored. On this account, unless cooled immediately after canning, glass jars can not be utilized for canning of crab meat.

## OYSTERS.

In canning oysters be sure they are absolutely fresh, have not "soured," and contain no oysters that are spoiled. It is therefore best to open the oysters by hand and absolutely reject any oysters where the shell is partly open, as this is a sign that the oyster in this particular shell is dead and unfit for use. Rinse the oysters to be sure no pieces of shell or grit are put into the cans. Pack 16 ounces of oyster meat in a No. 2 can and fill with boiling brine (made in the proportion of  $\frac{1}{4}$  pound of salt to 5 quarts of water) to within  $\frac{1}{2}$  inch from top of can. Cap and exhaust 10 minutes at boiling temperature (212° F.). This may be done by placing the cans in the steam-pressure canner (with boiling water in bottom of retort). Keep it boiling, put on the lid but leave the pet-cock open, so steam escapes. Tip and process:

No. 2 cans 35 minutes at 240° F. or 10 pounds of steam pressure.

## CLAMS.

If the clams are muddy, wash before opening. After opening, discard all broken or discolored clams. Do not can the clams unless they are absolutely fresh. Weigh out the amount of solid meats, after draining, that is to go into each can (about 8 ounces of meat for a No. 1 can, 16 ounces for a No. 2 can). Fill the can to within  $\frac{1}{2}$  inch from top of can with a hot brine made by boiling 1 pound salt to 5 gallons of water. Cap and exhaust 10 minutes at boiling temperature (212° F.), tip, and process:

No. 1 cans 30 minutes at 240° F. or 10 pounds of steam pressure.

No. 2 cans 40 minutes at 240° F. or 10 pounds of steam pressure.

NOTE.—Use only inside-lacquered cans.

## CLAM BROTH.

Open large fresh clams and place them in a kettle with all their liquid. Add enough cold water to cover the clams. Add a few stalks of celery. Place on the fire and let boil for 10 minutes. Season with salt and pepper to taste and add a tablespoon of butter for each 50 to 60 large clams. Strain and fill hot into inside-lacquered cans. Cap, tip, and process:

No. 2 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

## CLAM CHOWDER.

2 dozen clams chopped fine.	3 large potatoes, peeled and cut into dice.
2 quarts hot water.	
2 medium, white onions, sliced.	1 to 2 teaspoons salt (to taste).
2 branches of celery, finely chopped.	1 saltspoon pepper.
2 leeks, cut fine.	3 large tomatoes, peeled and cut fine.
2 slices of pork or bacon, cut into dice.	$\frac{1}{4}$ teaspoon thyme.
	1 teaspoon finely chopped parsley.

Heat the pork or bacon and fry the onions, celery, and leek in the fat; add the liquid from the clams, water and potatoes, cook 10 minutes, add the clams, tomatoes, salt, pepper, and thyme (Worcestershire sauce according to taste may be added). Boil for 10 minutes, add the parsley, and fill hot into inside-lacquered cans. Cap, tip, and process:

No. 2 cans 40 minutes at 250° F. or 15 pounds of steam pressure.

No. 3 cans 50 minutes at 250° F. or 15 pounds of steam pressure.

When serving, equal amounts of butter and flour may be creamed together and added as thickening to the heated chowder.





